

**CLAIMS**

What is claimed is:

1. A multimedia caching subsystem for a communication satellite, the caching subsystem comprising:

an uplink demodulator producing demodulated data on a demodulated data output;

memory coupled to the data output for storing the demodulated data; and

a processor coupled to the memory, the processor outputting a first preselected time delay control signal to the memory to generate a first time delayed data stream, and a second preselected time delay control signal to the memory to generate a second time delayed data stream.

2. The caching subsystem of claim 1, further comprising a first downlink modulator coupled to the memory.

3. The caching subsystem of claim 2, wherein the first downlink modulator is a Digital Video Broadcast modulator.

4. The caching subsystem of claim 1, further comprising a first downlink modulator modulating first data for a first time zone downlink, and a second downlink modulator modulating second data for a second time zone downlink.

5. The caching subsystem of claim 1, wherein the memory is a solid state recorder.

6. The caching subsystem of claim 1, wherein the demodulated data is at least one of television program data, music data, and video game data.

7. A caching subsystem for a communication satellite, the caching subsystem comprising:

an uplink demodulator producing program data, a program data identifier, and a delivery request on a demodulator output;

a memory coupled to the data output for storing the demodulated data and the program data identifier;

a processor coupled to the memory, the processor outputting a control signal to the memory to generate a downlink data stream from the program data when specified by the delivery request.

8. The caching subsystem of claim 7, wherein the delivery request comprises a delivery time and a delivery date.

9. The caching subsystem of claim 7, further comprising a downlink modulator coupled to the memory.

10. The caching subsystem of claim 7, wherein the memory is a solid state recorder.

11. The caching subsystem of claim 7, wherein the memory also stores second program data and a second program data identifier, and wherein the processor outputs a second control signal to the memory to generate a second downlink data stream from the second program data when specified by a second delivery request.

12. The caching subsystem of claim 7, further comprising a Digital Video Broadcast decoder coupled between the uplink demodulator and the memory.

13. The caching subsystem of claim 12, further comprising a Digital Video Broadcast coder coupled to the processor for formatting the downlink data stream.

14. A method for caching program data in a communication satellite, the method comprising:

receiving program data on an uplink;

obtaining a program identifier associated with the program data;

caching the program data in a memory;

retrieving the program data from the memory at a predetermined future time according to at least one of a delivery request and a delivery schedule; and

generating a first downlink data stream from program data retrieved from the memory.

15. The method of claim 14, wherein retrieving comprises retrieving according to the delivery request, and wherein the delivery request comprises a delivery time, delivery date, and the program identifier.

16. The method of claim 14, wherein receiving program data comprises receiving Digital Video Broadcast program data.

17. The method of claim 16, bypassing the memory using an IF bypass path.

18. The method of claim 15, wherein caching comprises caching in a solid state recorder.

19. The method of claim 14, wherein retrieving comprises retrieving according to the delivery schedule.

20. The method of claim 14, further comprising outputting a first preselected time delay control signal to the memory to generate a first time delayed data stream.

21. A method for caching program data in a communication satellite, the method comprising:

receiving program data on an uplink;

obtaining a program identifier associated with the program data;

caching the program data in a memory;

retrieving the program data from the memory at a predetermined future time according to at least one of a delivery request and a delivery schedule;

generating a first downlink data stream from program data retrieved from the memory;

receiving a second delivery request; and

generating a second downlink data stream in response simultaneously with the first downlink data stream.

22. A method for caching program data in a communication satellite, the method comprising:

receiving program data on an uplink;

obtaining a program identifier associated with the program data;

caching the program data in a memory;

retrieving the program data from the memory at a predetermined future time according to at least one of a delivery request and a delivery schedule;

generating a first downlink data stream from program data retrieved from the memory;

outputting a first preselected time delay control signal to the memory to generate a first time delay control signal to the memory to generate a first time delayed data stream; and

outputting a second preselected time delay control signal to the memory to generate a second time delayed data stream with a delay different than the first time delayed data stream.

23. The method of claim 22, further comprising downlinking the first time delayed data stream to a first time zone at a preselected terrestrial time, and downlinking the second time delayed data stream to a second time zone at the preselected terrestrial time.